

Schimchowitsch, S., & Rohmer, O. (2016). Can we reduce our implicit prejudice? The challenge of meditation. *International Journal of Disability, Development and Education*, 63, 641-650. doi: org/10.1080/1034912X.2016.1156656

Can we reduce our implicit prejudice toward persons with disability?

The challenge of meditation

Abstract

The present research further extends recent data revealing implicit attitude towards persons with disability, with the aim to explore if meditation practice can reduce automatic mental processes initiating prejudice. Forty adult experienced meditators and 34 meditation-naïve individuals performed an evaluative priming task. None of them presented any disability. Results show important discrepancies between control and meditation practicing participants: subliminal disability-priming inhibited evaluation of positive words and facilitated evaluation of negative words in the control group, thus revealing the presence of an implicit prejudice toward people with disability. In the meditator group, a quite different pattern of results emerged: disability-priming did not affect the evaluation of words, whether positive or negative. These findings suggest that meditation practice could deter automatized categorization. They provide a hopeful message in the limited current armamentarium for decreasing negative attitudes towards persons with disability.

Key words: Meditation, implicit prejudice, disability, automaticity

Stereotyping and prejudice involve reflexive and habitual patterns of cognitive and emotional reactivities, which implicate both controlled and automatic processes (Blair & Banaji, 1996; Devine, 1989). Traditionally, researchers in social psychology assess stereotypes and prejudice using explicit questionnaire measures that require participants to report their judgment of the target group, usually by marking a rating scale. However, one fundamental problem with such self-report measures is that they are transparent to the respondent, and therefore sensitive to social desirability concerns. In order to present themselves in a favorable way, many people may not reveal their counter-normative attitudes when asked about socially sensitive issues. In this case, their positive evaluations would not manifest themselves when examining implicit evaluations. Implicit evaluations operate in an automatic way, and differ from explicit measures insofar as they are generally assumed to be uncontrolled, unintentional, unconscious, and requiring limited cognitive resources (Bargh, 1994; De Houwer, 2006; Wittenbrink, Judd, & Park, 2001). Because implicit evaluations operate outside of awareness and intentional control, they limit socially desirable responding, and promise to better measure the respondents' "true" attitudes and beliefs.

Contributing to this vein of research, Rohmer and Louvet (2012a) have conducted studies to assess implicit stereotype associated with persons with disability. Handling a Lexical Decision Task, a sequential priming technique specifically appropriated to assess implicit stereotyping, participants subliminally primed with disability (the international pictogram of disability) have to decide whether a letter sequence is a word or not. The target words were traits denoting personal or professional qualities. The more the target word is perceived as related with a person with disability, the faster participants are able to identify the target word. Results clearly revealed discrepancies between implicit and self-report evaluations. In particular, the authors highlighted an ambivalent stereotype associated with disability at the explicit level: negative on professional characteristics but positive on personal

qualities. However, this mixed stereotype was no more ambivalent at an implicit level: all positive traits were inhibited after the disability-prime. Discrepancies between explicit and implicit attitude can be explained by societal pressure against prejudice and discrimination. Overt negative attitudes toward persons with disability are unacceptable, these persons belonging to a strongly normatively protected group. Consequently, positive evaluations on personal qualities are deliberately endorsed as an over-compensation strategy based on the motivation to appear 'politically correct' (Dambrun & Guimond, 2004). By contrast, the implicit level gives people a reduced opportunity to control their answers in a socially desirable way and the automatic prejudice towards disability was then unambiguously revealed.

These automatized mental reactions can lead to negative outcomes. Several lines of research have highlighted their broad influence on subsequent judgments, emotion, decision-making and behaviors (for review see Ferguson, 2007). This could explain why policies promoting equal opportunities to persons with disability fail to ensure social participation among these persons (WHO, 2011).

Faced with this upsetting statement, the following question then arises: Would it be possible to master our automatic evaluations? By definition, automatic processes are assumed to be autonomous, namely out of respondents' control. However, the last ten years of findings in attitude research has disproved the conception that automatic responses were just fixed, inevitable stimulus triggered reactions. Rather, consistent with the Bargh's (1994) concept of 'conditional automaticity', the notion of contextual as well as goal-dependent automaticity has emerged. In particular, accumulated research has shown that implicit attitudes and evaluations can be moderated by different contextual parameters, such as participants' objectives or motivation, object-relevant information or even social influence pressure (e.g., Chartrand, van Baaren, & Bargh, 2006; Dasgupta & Greenwald, 2001; Karpinski & Hilton,

2001; Maddux, Barden, Brewer, & Petty, 2005; Mitchell, Nosek & Banaji, 2003; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999; Wittenbrick, Judd, & Park, 2001). Thus, at least some automatic cognitive processes appear to be malleable, only occurring when certain preconditions are met. Therefore, we believe that the subject deserves to be questioned otherwise: Can we learn to become unresponsive to such contextual parameters? Would it be possible not to engage in automatic evaluations to avoid prejudicial outcomes? We hypothesized that the meditation practice would allow such an opportunity. Indeed, despite its various types, meditation practice involves basically a self-focus attempt to avoid the stream of thoughts, intending to reach what Cardoso, de Souza, Camano and Leite (2004, 2008) call the 'logic relaxation', namely the capacity to stop analyzing, judging or creating any type of expectation regarding the ongoing process or its effects. Thus, by improving self-regulation, by regulating attention and awareness and fostering executive control, meditation practice should allow people to overcome impulses and override automatic functioning. This was suggested for mindfulness, a specific practice or state of openness and nonjudgmental awareness of the present moment (Brown & Ryan, 2003; Chambers, Lo, & Allen, 2008; Kabat-Zinn, 2003; Ostafin, Kassman, & Wessel, 2013; Teper & Inzlicht, 2013). The aim of our research was to test the hypothesis that meditation practice can discontinue automatic reactivity in a context of implicit activation of categorical stereotype. In the field of social psychology, only one study has just start to test how mindfulness training could reduce implicit reactions towards discriminated populations (Lueke & Gibson, 2014). Using an Implicit Association Task (IAT), these authors showed a decrease in implicit race and age bias. However, the IAT paradigm seems to violate one of the fundamental features of automatic procedures, the controllability: participants may become aware of what is assessing during the task (Dijkerhuis & Bargh, 2001). Consequently, this procedure could not be assumed to be better than explicit measures to assess prejudice and predict behavior (Oswald,

Mitchell, Blanton, Jaccard, & Tetlock, 2013). In contrast with the IAT procedure, sequential priming procedures are specifically designed to assess the likelihood that some social categories receives automatic activation from memory (without conscious awareness, controllability and intent), through the use of subliminal primes, backwards masks, or short stimuli onset asynchrony between primes and targets (Boccatto, Cortes, Demoulin, & Leyens, 2007; de Wit & Kinoshita, 2014; Neely, 1977). Then, using such a sequential priming procedure, we aimed to verify whether meditation practice could reduce the influence of a disability-priming stimulus presented outside of conscious awareness on subsequent evaluative answers.

Method

Participants

Seventy-four French people participated in this study, on a voluntary basis. They were French speaking and had normal or corrected-to-normal vision. None of them presented any disability. Forty of them (26 females, $M_{\text{age}} = 56$, $SD = 11.74$) were experienced meditators (at least 1 year of meditation experience), recruited from local yoga centers offering sessions of attentional meditation practice focused on breath and bodily sensory perception. These participants practice together at least once a week and regularly alone at home. They were assessed directly after a meditation session. Thirty four participants were meditation-naïve (control group) and recruited in respect to age and gender of meditators (24 females, $M_{\text{age}} = 55$, $SD = 10.41$). They were recruited among meditators friends and colleagues, and reported having no experience in any kind of meditation, yoga or relaxation techniques.

Measures

Implicit prejudice was measured following a simplified version of the evaluative sequential priming paradigm (Fazio et al., 1995; Wittenbrink et al., 2001). Participants were first presented with priming stimuli outside of conscious awareness and then asked to

indicate, as quickly and as accurately as possible, whether target words appearing on a computer screen had a positive or a negative valence. The priming stimuli for this task involved symbolic categorical pictures: a person with disability, the international disability pictogram, or without disability, the international pedestrian pictogram (Dionne, Gainforth, O'Malley, & Latimer-Cheung, 2013; Pruett & Chan, 2006; Rohmer & Louvet, 2012a). A pilot study indicated that the international disability pictogram is unanimously associated to disability whereas the international pedestrian pictogram evokes somebody who is walking (Rohmer & Louvet, 2012b). In order to obtain baseline responses, a neutral prime condition was introduced (a square). Each prime was followed by target words which varied in valence: six positive words (freedom, joy, happiness, holidays, pleasure, smile) and six negative words (agony, cancer, crime, rape, supplice, war). These words were pretested for their valence (Rohmer & Louvet, 2012a) and fully crossed with the three primes, the order being randomized. Participants had to judge the evaluative connotation (positive/negative) of each word. Response latencies recorded for each prime-target combination indicate the degree with which people relate the categorical picture with positive or negative valence.

Procedure

Participants were told that they would take part in a task of verbal fluency. The task was presented on a monitor. Participants were asked to focus on a fixation cross presented in the center of the screen for 1000 ms. This cross was followed by the prime presented very briefly and synchronized to the screen refresh rate (17 ms). Prime size was precisely 5 cm × 5 cm. The prime was overwritten by a backward mask (a geometrical figure) for 250 ms to prevent conscious identification of the prime (de Wit & Kinoshita, 2014). Finally, a target adjective was presented for 250 ms in white 18-point Arial font on a black background. Participants had to indicate whether this word is positive or negative, by pressing response keys respectively labeled '+' and '-'. Ten practice trials were presented with an experimenter

on hand to provide assistance before responding to the experimental trials. Participants received different random orders of trials. Response latency measures after each categorical prime were subtracted from the response latency following the neutral prime. Thus, larger values indicate greater response facilitation by the categorical prime. In line with literature, the stronger the mental association between the categorical prime (positively or negatively perceived) and the target word (of positive or negative valence), the higher the facilitation score will be (Wentura & Degner, 2010; Wittenbrink, 2007).

Before participants were debriefed and thanked, they were asked whether they had seen something appearing on the screen prior to the target words in order to ensure that they were not aware of the priming. Disability had not been identified by any participant.

Results

Results are based only on correct responses. Errors and extreme outliers were recoded as missing values. We collapsed across the six positive and the six negative items given each prime. Following recent recommendations (Cumming, 2014), we tested planned contrasts based on our main assumptions, rather than reporting omnibus analyses of variance. All means are given in Table 1. On the basis of facilitation differences as a function of group (control versus meditator), prime (with disability versus without disability), and valence (positive versus negative), the first factor varying between-participants, the others varying within participants, we computed several contrasts of interest. The first contrast captures generalized prejudice, in the both group. More specifically, this contrast examines whether negatively valenced items are more facilitated by the disability prime than are positively valenced items, and whether the reverse is true for the without-disability prime. The two following contrasts capture evaluation separately for each prime. More specifically, a second contrast examines whether negative items are more facilitated by the disability prime than are

positive ones. Finally, the third contrast examines whether positive items are more facilitated by the without-disability prime than are negative ones.

The first contrast suggested generalized prejudice toward persons with disability in the control group ($F(1, 33) = 2.99, p < .08$). The cell means make clear that, following the with-disability prime, negative items showed larger facilitation ($M = 0.28$) than positive items ($M = 7.90$), whereas this pattern was reversed following the without-disability prime ($M_{positive} = 9.33; M_{negative} = -10.45$). This result was no longer true when focusing on the meditator group ($F(1, 39) = 0.15, p = .70$): following both disability- and without-disability prime, positive items ($M_{with-disability} = -9.54; M_{without-disability} = -0.46$) were more facilitated than negative items ($M_{with-disability} = -33.28; M_{without-disability} = -18.45$). The two following contrasts compared evaluations in the meditator group and the control group, separately for disability- and without-disability prime. Results showed that prejudice effect was attributable solely to disability prime ($F(1, 72) = 2.17, p < .10$). Although this contrast failed to reach a conventional level of significance, the cell means clearly suggested that negative items showed larger inhibition in the meditator group ($M = -33.28$) than in the control group ($M = 0.28$). No effect was found for without-disability prime ($F(1, 72) = 0.01, p = .92$), suggesting that this label (persons without disability) cannot be considered as a meaningful categorical prime (Rohmer & Louvet, 2009).

Insert Table 1

Discussion

By extending previous studies showing implicit prejudice against persons with disability, the main purpose of our research was to test whether meditation practice could reduce such implicit prejudice. In the growing literature on implicit attitudes, only few studies focused on prejudice against persons with disability (Dionne et al., 2013; Kurita & Kusumi, 2009; Pruett & Chan, 2006; Rohmer & Louvet, 2012a). As far as we know, there has been

only one attempt to study the impact of mindfulness on implicit reactions towards minorities. Results indicated that brief mindfulness training enabled reduction of implicit bias against black or old people (Lueke & Gibson, 2014). However, this pioneered study conducted among college students used an IAT procedure which did not ensure uncontrollability of answers (Dijksterhuis & Bargh, 2001). Using a sequential priming paradigm specifically designed to assess automatic (without conscious awareness, controllability and intent) processes (Boccatto et al., 2007; Neely, 1977), we compared for the first time implicit prejudice against persons with disability in adult population practicing or not regular meditation. Results highlight discrepancies between the two populations. In non-meditator population, positive items were more facilitated than negative items after a without-disability prime, whereas this effect was reversed following a disability prime. Thus, our results support the previous work showing an implicit prejudice related to disability, but using an evaluative task instead of an implicit association test (Pruett & Chan, 2006) or a decision lexical task (Rohmer & Louvet, 2012a), and specially involving a middle age population instead of students. For meditation practitioners, a quite different pattern emerged: disability is less associated with negativity. Indeed, negative words were always inhibited, even after priming disability. Thus, in line with our hypothesis, meditation practice seemed to reduce the influence of a disability-priming stimulus presented outside of conscious awareness on subsequent negative evaluative answers. In addition, the automatic treatments received by disability- and without-disability primes appear to be equivalent in our meditation practitioners, results highlighting an absence of prime effect in this group.

In overall, data obtained in this study support a de-automatizing function of meditation practice, which might reduce either or both the impact of unconscious priming or the automatic activation of mental processes initiating negative prejudice towards disability. Thus, our results are in line with recent suggestions that practices which monitor attention and

foster mental control, as suggested for mindfulness, should help to override automatic functioning (Chambers et al., 2008; Jha, Krompinger, & Baime, 2007; Ostafin, Kassman, & Wessel, 2013; Teper & Inzlicht, 2013). The attentional meditation practiced by our participants within the Hatha yoga tradition, that is the repeated placement of attention on the physical sensations of breathing while clearing the mind of other thoughts, very likely improves awareness and conscious attention to the present moment. Such processes should discontinue automatic inference processing shown in priming and stereotyping (Kang, Gruber, & Gray, 2013). Indeed, previous findings suggested that mindfulness can minimize the impact of priming and the biased influence of past experience on thoughts and behavior (Lueke & Gibson, 2014; Ostafin & Kassman, 2012). For example, a less susceptibility to a priming manipulation has been described for individuals with higher levels of dispositional mindfulness (Radel, Sarrazin, Legrain, & Gobancé, 2009), and mindfulness training in a naturalistic classroom setting has been shown to decrease racial stereotyping and discrimination against children with physical disability (Langer, Bashner, & Chanowitz, 1985; Lillis & Hayes, 2007).

Other mechanisms could be considered to explain our results. Meditation has been shown to enhance positive emotions and reduce negative ones (Bitner, Hillman, Victor, & Walsch, 2002). A body of research has revealed that feelings or emotions provide useful information for subsequent judgments and interactions. This “feeling-as-information” perspective (Schwarz, 1990) has shown that experience of positive affects would predict positive consequences on intergroup cognitions and behaviors. In agreement with Cardoso’s perspective, meditation practice enables to reduce rumination of past experiences and cultivates the cessation of elaborative thoughts (Cardoso et al., 2008; Wells, 2006); consequently meditators could use affects as heuristics to deal with the present moment. Then, the generalized positive affective disposition of meditation practitioners could reduce the

strength of past automatic association between disability and negativity. In addition, recent neuroimaging research evidenced that meditation practitioners exhibit significantly different neural responses in cognitive and affective brain circuitry than non-meditators (Aftanas & Golosheykin, 2005; Cahn & Polish, 2006; Gootjes, Franken, & Van Strien, 2011). More precisely, an attentional meditation practice similar to that of our participants can moderate neural emotional interference on a cognitively demanding task (Froelinger, Garland, Modlin, & McClernon, 2012). Thus, the modulation of emotion-cognition interactions by meditation practice could explain why disability-prime did not affect subsequent negative responses among our meditator participants.

This study might stimulate interest in further research on the use of meditation practice to reduce activation of negative implicit prejudice. However, it contains some potential limitations. Notably, this research focused on people who deliberately chose an approach of personal development and might be more open to others and less prejudiced than the mainstream population. Then, the preliminary correlational findings between meditation practice and prejudice reduction merit to be more firmly established. Nevertheless, some randomized studies in which mindfulness state has been experimentally induced support our results (Djikic, Langer, & Stapleton, 2008; Langer et al., 1985; Lueke & Gibson, 2014). For example, listening to a 10-min audiotope that focused participants on mindfulness reduced the implicit racial bias expressed as compared with listening to a control audio condition (Lueke & Gibson, 2014). Yet, there can be no guarantee that immediate priming could positively impact subsequent behaviors in real social interactions. Thus, it would be relevant to conduct longitudinal studies in order to test the same people before and after (shorter- and longer-term) their involvement in a meditation practice. This would allow assessing whether these people express different attitudes at an explicit and implicit level, and whether the gap generally observed between explicit and implicit evaluations can be reduced through

meditation practice training. In a complementary manner, such a study will allow to address the important issue concerning whether meditation practice may promote non-discriminatory behaviors.

To conclude, further research is required to precise the effects of meditation practice on mental to behavioral de-automatization. However, this study provides a hopeful message in the limited current armamentarium for addressing implicit prejudice toward persons with disability. Meditation may have an interesting role in alleviation of this actual societal problem.

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